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Abstract

This research investigated the effect of project planning on project performance, a case of Nyandungu Urban Wetland Ecotourism Project. This research was achieved the following objectives: to assess the effect of project resource planning on project performance of Nyandungu Urban Wetland Ecotourism project; to examine the effect of risk management planning on project performance of Nyandungu Urban Wetland Ecotourism project; to investigate the effect of stakeholders planning on project performance of Nyandungu Urban Wetland Ecotourism project and to evaluate the effect of project schedule planning on project performance of Nyandungu Urban Wetland Ecotourism project. The research also compared two variables which are independents and dependents variables. This study was designed as a case study of Nyandungu Urban Wetland Ecotourism project using the survey method; a case study was described as analysis of project planning on project performance, the researcher acquired knowledge regarding the subject under review from in-depth exploration of single case. It is a qualitative analysis that involves careful observation of the situation. All the respondents from the population of Nyandungu Urban Wetland Ecotourism project to respond to research questionnaires. The research used questionnaires to collect data, As far as this study was concerned, the population were comprised of respondents of Nyandungu Urban Wetland Ecotourism project in different departments targeting 178 respondents. To describe target population of a study as the point of focus from which a generalization was made regarding the research findings. Thus, a sample size was 178 respondents. The study adopt primary and secondary data to get all information needed in this study, the quantitative data was analyzed using descriptive and inferential statistics after running the data collected through the Statistical Package for Social Sciences. Coefficients for the predictor variables show their effect on performance of Nyandungu Urban Wetland Ecotourism project. Specifically, Project resource planning has a coefficient of ($\beta=0.238$, $t=5.342$, $p\text{ value}=0.000$), Risk management planning has a coefficient of ($\beta=0.244$, $t=5.010$, $p\text{ value}=0.000$), Stakeholders planning has a coefficient of ($\beta=0.569$, $t=3.490$, $p\text{ value}=0.001$), and Project schedule planning has a coefficient of ($\beta=0.512$, $t=9.648$, $p\text{ value}=0.000$). As indicated by their associated Sig. Values below 0.05, All these coefficients have significant effect on performance of Nyandungu Urban Wetland Ecotourism project. Therefore, from the research findings, this research recommended Nyandungu Urban Wetland Ecotourism project as follows; Educational projects, in order to attain sustainable project success should focuses on intellectual competency, managerial competency and emotional competency of Nyandungu Urban Wetland Ecotourism project for being aligned with risk management.

1. Introduction

Rwanda invests significantly in comprehensive project planning across various sectors, demonstrating strong commitment from the government. However, despite substantial financial and strategic efforts, project failures persist in both private and governmental initiatives. The government has initiated numerous development projects, allocating substantial resources and energy to ensure their success. Nevertheless, challenges such as external pressure from donors occasionally compel project managers to deviate from conventional management principles (Belagis, 2018).

Instances of poor planning have adversely affected the sustainability of certain projects, with strategic planning playing a crucial role in influencing overall project performance. The "One Laptop per Child" project, as documented in the ADRA Report (2016), serves as an example where inadequate planning led to the failure to achieve set objectives. Effective project planning is deemed vital, as it significantly influences a project's success and its ability to attain sustainability.

The Nyandungu Urban Wetland Ecotourism project, recognizing the importance of robust project planning, has prioritized capacity-building to enhance its performance. Simultaneously, organizations face escalating complexity, uncertainty, and ambiguity in their socio-economic environments, impacting project planning effectiveness (Gareis, 2015). Projects serve as mechanisms to implement strategic changes, generate competitive advantages, and create value. In the construction sector, responding to increasing complexity demands more efficient project planning and control, utilizing a range of methods from traditional to modern techniques (Kamau, Mireri, & Usman, 2013).

Population growth and the demand for diverse construction projects require professional practitioners adept in project management systems to demonstrate their capacity for performance improvement. Rwanda's local government public programs, funded by the Rwanda Local Development Strategy Fund, play a pivotal role in economic investment. The ownership and implementation of World Bank projects for community development are notable achievements for Rwanda (Rwanda Vision 2020)

While many government and private projects have comprehensive project plans, a persistent issue lies in their failure to sustain as expected. The researcher delved into the adherence of projects to critical planning components such as resource planning, risk management planning, stakeholder planning, and project schedule planning to gauge their overall performance (King, 2013). The research findings emphasized the indispensability of a robust project planning team for achieving optimal project performance.

Since the project faced many challenges as follow: Scope creep occurs when a project's scope grows beyond its original definition or goals, lack of project resource planning, poor risk management planning, poor stakeholders planning and poor project schedule planning all elements above affect negatively project performance. It is therefore this research want to fill the gap with assessing the effects of project planning on project performance in Rwanda with reference of Nyandungu Urban Wetland Ecotourism project.

1.1. Research objectives

The general objective of this study was to assess the effect of project planning on project performance.

Specific objectives:

- i. To assess the effect of project resource planning on project performance of Nyandungu Urban Wetland Ecotourism project;
- ii. To examine the effect of risk management planning on project performance of Nyandungu Urban Wetland Ecotourism project;
- iii. To investigate the effect of stakeholders planning on project performance of Nyandungu Urban Wetland Ecotourism project;
- iv. To evaluate the effect of project schedule planning on project performance of Nyandungu Urban Wetland Ecotourism project.

1.2. Research Hypotheses

H₀1: Project resource planning has no significant effect on performance of Nyandungu Urban Wetland Ecotourism project;

H₀2: Risk management planning has no significant effect on performance of Nyandungu Urban Wetland Ecotourism project;

H₀3: There is no significant effect of stakeholders planning on performance of Nyandungu Urban Wetland Ecotourism project;

H₀4: There is no significant effect of project schedule planning on performance of Nyandungu Urban Wetland Ecotourism project.

2. Literature review

2.1 Theoretical Review

Theoretical framework involves the review of theories underlying the study topic. Theories covered in this study include: Allocation of resource theory, expenditure theory, economic theory and theory of Constraints.

2.1.1 Resource Based View Theory

Allocation of resource theory was developed by Peteraf and Barney (2015). It is concerned with the discovery of how nations, corporate, entrepreneurs or individuals distribute financial resources through budget management process to attain financial goals. For corporate economic resource to attain sustained competitive advantage, it should have the following qualities: priceless, rare, imperfectly imitable and non-substitutable. This calls for use of budget management systems to allocate those scarce economic resources in government institutions (Anantadjaya, 2018).

The economic concept of resource allocation is an important area of study in an organization using the invisible hand theory. Under invisible hand theory, the allocation of resources is done through competition, supply and demand by individuals and corporate (Peteraf, 2014). "Corporates distribute financial resources through budgeting in their attempts to meet predetermined financial targets". Therefore, the allocation of resource theory, help organizations in allocating financial resources at their disposal through budget management system and financial resources help a project to sustain for long as well to achieve their goals.

2.1.2 Expenditure Theory

Expenditure theory was developed by (Rubin, 2016). This theory is of two kinds: the normative theory and the descriptive theory. Budget management needs a normative theory in deciding its critical policy on financial expenditure. Normative theory also explains why some corporate expenditure are given priority while others are not considered in their budgeting process, which in turn helps these corporates to perform well financially (Posner and Blondal, 2017).

Normative theory of budgeting accomplishment and acceptance means end of conflict over the government's role in society. Budget management has become predominant process of government decision making.

Descriptive theory is based on keen observations or participations in public sector financial activities on budgets in order to achieve financial objective. "This theory emphasizes importance of corporates having relevant facts to explain individual budget expenditure variation and which in turn assist in knowing why expenditures change as opposed to set financial targets (Ulrich, 2016)". "Organization use normative theory to choose activities or projects to be undertaken depending on the desirability of the project as expressed on the budget which in turn helps corporate to attain set financial targets". This theory is here to help different projects managers to know their annual expenses for maintain project sustainability.

2.1.3 Theory of Constraints

The theory of constraints is a set of management tools created by Eliyahu Goldratt in 2014. The theory is applicable in many areas including project management and performance measurement among many others (Blackstone, 2010). The theory helps organizations to identify the most important constraints or bottlenecks in their processes and systems and dealing with them in order to improve performance. According to Goldratt (2014), organizational performance is dictated by constraints present in processes and systems. Constraints are restrictions that hinder an organization from maximizing its performance and achieving its goals and objectives (Goldratt, 2014). He states that constraints can involve policies, equipment, information, supplies or even people, and can be either internal or external to an organization.

Theory of constraints can be applied in conjunction with other management techniques such as total quality management and risk management to ensure a comprehensive set of techniques that ensure continuous improvement in all areas of operation in an organization. The theory is based on five steps which include: identifying the system's constraints that limit progress toward the goal, exploiting the most important constraint, subordinating everything else to the decision made by managing the system's policies, processes and resources to support the decision, elevating the constraint by adding capacity or changing the status of the original resources to increase the overall output of the constraining task or activity, and finally going back to step one and identify the next most important constraint (Steyn, 2012). The five steps in applying the theory of constraints enable an organization's management to remain focused on the most important constraints in their systems.

Theory of constraints is applicable in many aspects of project management. Monitoring and evaluation are done throughout the steps on the theory of constraints in order to record information regarding the progress of managing the constraints. Step five of the theory of constraints provides for feedback which is important in evaluation of results to determine whether there is progress in achieving project goals and objectives (Steyn, 2016). Any project risk might be a constraint or could become a constraint (Steyn, 2016). In most cases, risk events that are initially not considered as posing the highest risk are neglected. Often, this may result in a risk event that was initially considered as not being critical becoming the most important constraint. Once a risk event has been identified as important or critical, the focus is to eliminate the risk or reduce either the probability of its occurrence or its impact to a level where it would not be critical anymore (Steyn, 2016). Project leadership is critical in executing the theory of constraints. It involves managing project schedules to ensure projects are completed on time and within the scope and budget (IMA, 2019). Managing constraints requires project leaders

to coordinate their project teams to minimize the effects of constraints effectively. Stakeholder participation is important in any project or organization as they contribute to decision-making to enhance the quality of products and services. While executing a project, stakeholder needs could be expected to change, which leads to changes in scope of the project (Steyn, 2016).

3. Research methodology

Research Design

A correlation design was utilized in order to interpret data. Therefore, both quantitative (questionnaire) and qualitative (interview) research techniques were used by researcher in order to collect data (information) related to the objectives of the study and for data analysis.

Population of the study

The entire target population of the study who was provided the information and data related to the objectives of the research study was included employees of Nyandungu Urban Wetland Ecotourism Project. The total number of the target population was 178 persons including the key informants. Thus, this total of population was used to extract the sample size of the research.

This was used census inquiry method. The census method is also called as a complete enumeration survey method wherein each and every item in the universe was selected for the data collection, or whenever the entire population is studied to collect the detailed data about every unit.

Techniques of data collection

The research was relied on questionnaire technique and key documents from the projects. In this research, the researcher used questionnaires to collect the information related to research topic. The questionnaires were questions structured in a Likert scale with Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. To collect data, the researcher emailed questionnaires to all the respondents who was expected to fill the questionnaire and email it back to the researcher within a week.

Interview technique allowed the researcher to collect information related to the effect of project planning on project performance through oral communication with selected staff of Nyandungu Urban Wetland Ecotourism Project and the researcher approach respondents in order to see the development technique to be used.

Documentation technique is important because it reviews the literature and tries to locate global perspectives in order to make a comparative framework for analysis and evaluation for readers; therefore, the researcher uses this documentary technique in order to conduct and get secondary data.

Data analysis

It was employed Statistical package for Social Sciences (SPSS) in processing and data examination of which informed the presentation of findings, examination and elucidation. The presentation was emphasized on the hypothesis. Statistical treatment depends upon the problem, especially the specificity of data gathered. Data analysis was done based on descriptive statistics particularly means and standard deviation.

Where there correlation analysis, regression analysis and model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$$

Where y= Project performance

β_0 = Constant

$\beta_1 X_4$ = Coefficient of estimation

- X₁= Project resource planning
- X₂= Risk management planning
- X₃= Stakeholders planning
- X₄= Project schedule planning

4. Research findings

This chapter presents the detailed findings of the objectives which the researcher sought to achieve.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910 ^a	.829	.825	.26670

a. Predictors: (Constant), Project schedule planning, Project resource planning, Risk management planning, Stakeholders planning

Table 1 presents the model summary for a regression analysis. The model includes predictors such as Project schedule planning, Project resource planning, Risk management planning, Stakeholders planning. The R value of 0.910 indicates a strong relationship between the predictors and the project performance of Nyandungu Urban Wetland Ecotourism project. The R Square value of 0.829 indicates that approximately 82.9% of the variability in the outcome variable can be explained by the predictors in the model. Overall, this model summary indicates a significant relationship between the project planning factors and the outcome variable project performance of Nyandungu Urban Wetland Ecotourism project, with a good fit to the data.

The findings are consistent with Duggal's (2015) emphasis on project planning's multifaceted role. Duggal highlights that project planning in Kenya serves to enhance project delivery, efficiency, inclusiveness, social capital, and governance while ensuring accountability. This aligns with the regression analysis results, demonstrating the significant relationship between project planning factors and project performance in the Nyandungu Urban Wetland Ecotourism project. It underscores that effective project planning is crucial for successful project outcomes.

Table 2 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	59.545	4	14.886	209.286	.000 ^b
1	Residual	12.305	173	.071		
	Total	71.850	177			

a. Dependent Variable: Project performance

b. Predictors: (Constant), Project schedule planning, Project resource planning, Risk management planning, Stakeholders planning

The F-statistic in Table 2, with an F value of 209.286, indicates the results of an Analysis of Variance (ANOVA) for the regression model. The associated significance level (Sig.), denoted as .000, is less than the typical significance threshold of 0.05. This implies that the overall model, which includes predictors like Project schedule planning, Project resource planning, Risk management planning, Stakeholders planning, is statistically significant. In simpler terms, there is strong evidence to assume that at least one of the predictors in the model has a

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significant impact on the dependent variable, project performance of Nyandungu Urban Wetland Ecotourism project. This indicates the importance of these project planning factors in influencing project performance of Nyandungu Urban Wetland Ecotourism project.

The findings align with Camilleri's (2018) emphasis on the importance of project planning. Camilleri highlights that in Rwanda, project planning plays a crucial role in managing changes, ensuring project success, and consolidating results for better performance. The study's ANOVA results further reinforce this perspective by demonstrating the significance of various project planning factors in influencing project performance, emphasizing the critical role of effective planning in project outcomes.

Table 3 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	.232	.118		1.972	.050
1 Project resource planning	.238	.045	.244	5.342	.000
Risk management planning	.244	.049	.261	5.010	.000
Stakeholders planning	.569	.163	.610	3.490	.001
Project schedule planning	.512	.053	.526	9.648	.000

a. Dependent Variable: Project performance

$$\text{Project performance} = 0.232 + 0.238(\text{Project resource planning}) + 0.244(\text{Risk management planning}) + 0.569(\text{Stakeholders planning}) + 0.512(\text{Project schedule planning})$$

In Table 3, the constant term, representing the estimated intercept of the regression model, has an unstandardized coefficient of 0.232 with a standard error of 0.118, but it is statistically significant with a Sig. Value of 0.050. The unstandardized coefficients for the predictor variables show their effect on performance of Nyandungu Urban Wetland Ecotourism project. Specifically, Project resource planning has a coefficient of ($\beta = 0.238$, $t = 5.342$, $p \text{ value} = 0.000$), Risk management planning has a coefficient of ($\beta = 0.244$, $t = 5.010$, $p \text{ value} = 0.000$), Stakeholders planning has a coefficient of ($\beta = 0.569$, $t = 3.490$, $p \text{ value} = 0.001$), and Project schedule planning has a coefficient of ($\beta = 0.512$, $t = 9.648$, $p \text{ value} = 0.000$). As indicated by their associated Sig. Values below 0.05, All these coefficients have significant effect on performance of Nyandungu Urban Wetland Ecotourism project.

The findings are consistent with the emphasis made by Bambarger (2018) on the significance of project planning. Bambarger's work underscores that effective project planning is pivotal for African countries to achieve and sustain economic improvements and address developmental challenges. This aligns with the regression analysis results, where various project planning components were found to have statistically significant impacts on project performance, reaffirming the importance of robust project planning practices.

Table 4 Hypotheses

	p value	decision
H ₀ 1: Project resource planning has no significant effect on performance of Nyandungu Urban Wetland Ecotourism project;	.000	Rejected
H ₀ 2: Risk management planning has no significant effect on performance of Nyandungu Urban Wetland Ecotourism project;	.000	Rejected
H ₀ 3: There is no significant effect of stakeholders planning on performance of Nyandungu Urban Wetland Ecotourism project;	.001	Rejected
H ₀ 4: There is no significant effect of project schedule planning on performance of Nyandungu Urban Wetland Ecotourism project.	.000	Rejected

The results of the hypotheses testing in Table 4 provide significant overviews into the influence of project planning on project performance of Nyandungu Urban Wetland Ecotourism project. Each null hypothesis (H₀1, H₀2, H₀3 or H₀4) has been rejected ($p < 0.05$), indicating strong evidence against the idea that these planning practices have no significant effect on the project performance of Nyandungu Urban Wetland Ecotourism project. Specifically, Project resource planning, Risk management planning, stakeholders planning, project schedule planning, all demonstrate a significant influence on the performance of Nyandungu Urban Wetland Ecotourism project. These findings emphasize the critical role of comprehensive project planning in achieving the performance of Nyandungu Urban Wetland Ecotourism project.

5. Conclusion

From the analysis and discussion of the result, it is undoubted that research question and objective of this research was clearly addressed. The strengths found in this research study were a strong positive relationship between the project planning factors which allows the project performance. The strong significant correlation exists again between the project scope, budget plan and communication plan which allows for the project performance especially Nyandungu Urban Wetland Ecotourism project in project short, medium and long term goals and the evaluation and comparison based only on the project performance. This implies that the budget plan and communication can help the project performance. Hence, when goals are not clearly identified, the whole project and team can suffer. When upper management cannot agree to or support undefined goals, the project in question typically has little chance of succeeding. The project manager must ask the right questions to establish and communicate clear goals from the outset.

Scope Changes also known as scope creep should occur when project management allows the project's scope to extend beyond its original objectives. However, the weaknesses found in this research study were as follow: the risk management plan is not related to explain project success because is no longer significant to any of project performance model success factors. Through research objective and questions which wanted to address the anxiety on the relationship between project planning and project performance, this research concluded that, there is a positive and relationship between project planning and project performance. Out of

this, there are still improvements necessarily toward project performance though the following recommendations are envisaged.

6. Recommendations

Therefore, from the research findings, this research recommended Nyandungu Urban Wetland Ecotourism project as follows; Educational projects, in order to attain sustainable project success should focus on intellectual competency, managerial competency and emotional competency of Nyandungu Urban Wetland Ecotourism project for being aligned with risk management.

The researcher further recommends that the government of the republic of Rwanda should help in motivation based organizations to know the benefits of planning through different organized planning among other project. Leaders in various projects should ensure that they manage project in the best ways that are able to lead and sustainability.

The researcher recommended that all projects should concentrate on planning in order to evaluate their short, medium and long-term impact on project performance; this is so because planning helps projects to know the environment in which they are operating and how to go about it.

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